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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Lee Weng

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10/03/2008

JONES DAY
222 EAST 41ST ST
NEW YORK, NY 10017

EXAMINER

RIGGS II, LARRY D

ART UNIT

PAPER NUMBER

1631

MAIL DATE

DELIVERY MODE

10/03/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/800,340	Applicant(s) WENG, LEE	
	Examiner LARRY D. RIGGS II	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20-70 is/are pending in the application.
- 4a) Of the above claim(s) 60-65 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 20-59 and 66-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request for Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 11 April 2008 has been entered.

Drawings

The amended drawings filed on 25 February 2008 are received and accepted.

Status of Claims

Claims 1-18, 20-70 are currently pending. Claims 60-65 are withdrawn. Claims 1-18, 20-59 and 66-70 are examined on the merits.

Withdrawn Rejections/Objections

The objection to claim 66 in the Office action mailed 30 August 2007 is withdrawn in view of the amendments filed 11 April 2008.

The rejection of claims 1-18, 19-59 and 66-70 under 35 U.S.C. 112, 2nd Paragraph in the Office action mailed 30 August 2007 is withdrawn in view of the amendment filed 11 April 2008.

Claim Rejections - 35 USC § 101

The amended claims filed 11 April 2008 have resulted in multiple embodiments of the invention being directed to non-statutory subject matter. As a result, the rejection under 35 U.S.C. § 101 is re-instated.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-18, 20-59 and 66-70 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are drawn method, computer program product and computer system for generating at least one error-corrected experiment profile of at least one experiment profile in a plurality of pairs of profiles.

Since the claimed invention involves mathematical algorithm, which is a judicial exception, the following analysis of facts of this particular patent application follows the rationale suggested in MPEP 2106.IV.C.2.

In the instant method claims 1-18, 20-59 and 66-70, there is no physical transformation by the claimed invention because calculating an average reference profile, determining a differential reference profile, adjusting an

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experiment profile and outputting error-corrected experiment profiles are not physical transformations.

Since the claimed invention, claims 1-18, 20-57, 66, 67 and 70, are a method, the following analysis of facts of this particular patent application follows the rationale suggested in Office's guidance to examiners under the Memorandum "Clarification of "processes" under 35 USC § 101", published May 15, 2008, available online www.uspto.gov/web/patents/memorandum.htm

Paragraph three:

"Based on Supreme Court precedent¹ and recent Federal Circuit decisions, the Office's guidance to examiners is that a § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing.² If neither of these requirements is met by the claim, the method is not a patent eligible process under §101 and should be rejected as being directed to nonstatutory subject matter."

The instant method claims 1-18, 20-57, 66, 67 and 70 are not tied to another statutory class (such as a particular apparatus) either explicitly or inherently. This rejection may be overcome by tying the instant method to a particular machine. Nominal or token recitations will not suffice, E.g. displaying, inputting, obtaining, etc. See *ex parte Langemyr*; Appeal 2008-1495, decided May 28, 2008. The applicants are cautioned against introduction of new matter in an amendment.

Since the instant method claims 1-18, 20-57, 66, 67 and 70, do not provide a physical transformation, the Examiner must determine if the instant claims produce a useful, tangible, and concrete final result. In determining if the instant claims have a useful, tangible, and concrete final result, the Examiner

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must determine each standard individually. For a claim to be “useful”, the claim must produce a final result that is specific, substantial and credible. For a claim to be “tangible”, the claim must set forth a practical application of the invention that produces a real-world final result. For a claim to be “concrete”, the process must have a final result that can be substantially repeatable or the process must substantially produce the same result again. Furthermore, the claim must recite a useful, tangible, and concrete final result in the claim itself, and the claim must be limited only to statutory embodiments. Thus if the claim is broader than the statutory embodiments of the claim, the Examiner must reject the claim as non-statutory.

Method claims 1-18, 20-57, 66, 67 and 70 do not produce a tangible final result. A tangible requirement requires that the claim must set forth a practical application of showing error-corrected experiment profiles, to produce a real-world result. The instant claims are drawn to a method for generating error-corrected experiment profiles. However, the last step of the claims includes outputting to a user interface device, a computer readable storage medium or a local or remote computer system, or displaying a first error-corrected experiment profile, a second-error corrected experiment profile, or data sets, the result of the invention is a set of data, such as a profile or data set, outputted to a user interface device, a computer readable storage medium or a local or remote computer system, or displaying. At least two embodiments of the instant invention involve outputting to a computer readable storage medium or a computer system, both of which are non-tangible outputs to a user. There is no

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guarantee that the results of the invention will be accessible to a user if data is outputted to a storage medium or a computer system. Since the claim itself must include a useful, concrete and tangible final result, the instant claims are non-statutory.

Regarding the system and program product claims 58, 59, 68 and 69 because the method claims are drawn to nonstatutory subject matter for not producing a useful, concrete and tangible result, the systems and program products that perform the process also do not produce a useful concrete and tangible result, thus also drawn to nonstatutory subject matter.

This rejection could be overcome by amendment of the claims to recite that a specific final result of the process is outputted to a user, or by including a result that is a physical transformation. The applicants are cautioned against introduction of new matter in an amendment.

Claims 1-18, 20-57, 59, 66, 67, 69 and 70 are drawn to a computer readable storage medium comprising. It is not clear that the invention as claimed will not have at least one embodiment that reads on carrier waves or a signal.

The instant specification provides a non-limiting definition of "computer readable media...including, for example, one or more floppy disks, one or more CD-ROMs, one or more DVDs or one or more DATs", (page 58-59). While the instant specification does not explicitly define the scope of the limitation of "computer readable medium," one skilled in the art would understand that computer readable medium includes carrier wave, which is a signal. For

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example, Fiekowsky et al., in US patent 6,090,555 (Date of Patent: July 18, 2000), define computer readable medium as being "a CD-ROM, floppy disk, tape, flash memory, system memory, hard drive, and a data signal embodied in a carrier wave." See column 14, claim 12. Bornstein et al., in US patent 6,1443,88 (Date of patent : Nov. 7, 2000) state, "The computer readable medium of the present invention generally includes a tape, a floppy disk, a CD ROM, a carrier wave. In a preferred embodiment, however, the computer readable medium of the present invention is a carrier wave." See column 8, lines 33-37. See, e.g., In re Nuijten, Docket no. 2006-1371 (Fed. Cir. Sept. 20, 2007)(slip. op. at 18)("A transitory, propagating signal like Nuijten's is not a process, machine, manufacture, or composition of matter.' ... Thus, such a signal cannot be patentable subject matter.").

Therefore, at least one embodiment of the instant claims 1-18, 20-57, 59, 66, 67, 69 and 70 are drawn to carrier wave or a signal.

It was held by the court that claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such, are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material, e.g. a computer program, falls within any of the categories of patentable subject matter set forth in § 101. The following analysis on why such a signal encoded with functional descriptive material is nonstatutory subject matter is excerpted from the US PTO's "Interim Guidelines for

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Examination of Patent Applications for Patent Subject Matter Eligibility" (OG

Notices: 22 November 2005, available from the US PTO website at

<http://www.uspto.gov/web/offices/com/sol/og/2005/week47/og200547.htm>):

First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents §1.02 (1994). The three product classes have traditionally required physical structure or material.

"The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result." Corning v. Burden, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices which perform functions. Indeed, devices such as flip-flops and computers are referred to in computer science as sequential machines. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine.

A "composition of matter" "covers all compositions of two or more substances and includes all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids." Shell Development Co. v. Watson, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), aff'd, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958). A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter.

The Supreme Court has read the term "manufacture" in accordance with its dictionary definition to mean "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery." Diamond v. Chakrabarty, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting American Fruit Growers, Inc. v. Brogdex Co., 283 U.S. 1, 11, 8 USPQ 131, 133 (1931), which, in turn, quotes the Century Dictionary). Other courts have applied similar definitions. See American Disappearing Bed Co. v. Arnaelsteen, 182 F. 324, 325 (9th Cir. 1910), cert. denied, 220 U.S. 622 (1911). These definitions require physical substance, which a claimed signal does not have. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. Lorillard v. Pons, 434 U.S. 575, 580

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(1978). Thus, Congress must be presumed to have been aware of the interpretation of manufacture in American Fruit Growers when it passed the 1952 Patent Act.

A manufacture is also defined as the residual class of product. 1 Chisum, § 1.02[3] (citing W. Robinson, The Law of Patents for Useful Inventions 270 (1890)). A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

These interim guidelines propose that such signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of § 101. Public comment is sought for further evaluation of this question.

Thus, claims 1-18, 20-57, 59, 66, 67, 69 and 70 are drawn to nonstatutory subject matter. To overcome the current rejection as it applies only to "computer readable storage medium", the applicants must strictly state that the invention is not to read on "carrier waves" and the instant claims must be clear that the invention could never be confused with an embodiment that covers carrier waves or a signal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LARRY D. RIGGS II whose telephone number is (571)270-3062. The examiner can normally be reached on Monday-Thursday, 7:30AM-5:00PM, ALT. Friday, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran can be reached on 571-272-0720. The

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fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shubo (Joe) Zhou/
Primary Examiner, Art Unit 1631

/LDR/
Larry D. Riggs II
Examiner, Art Unit 1631